

Remarks/Arguments:

Applicants thank the Examiner for the courtesy of the April 5, 2007 telephone interview. The substance of the interview is set forth below.

Claim Objections

Claims 24 and 25 stand objected to as device claims depending from a method claim. Applicants respectfully submit that claims 24 and 25 as amended address the examiner's concern.

Claim Rejections Under 35 U.S.C. §112, second paragraph

Claim 13 stands rejected under 35 U.S.C. §112, second paragraph, as indefinite because the term "effective current" is not defined. Applicants respectfully submit that "effective current" is common term and is understood by one skilled in the art. Fundamentals of Electric Circuits, Second Edition, explains on page 468 that "[t]he effective value of a periodic current is the dc current that delivers the same average power to a resistor as the periodic current." Independent claim 13 recites a "pulse-width-modulated" periodic current. The claim is clear and concise to one possessing ordinary skill in the pertinent art at the time the invention was made. See M.P.E.P. §2173.02. Applicants respectfully request withdrawal of this rejection of claim 13.

Claim 21 stands rejected under 35 U.S.C. §112, second paragraph, as lacking antecedent basis for the term "the connected semiconductor." Applicants respectfully submit that claim 21 as amended addresses the examiner's concern and that this rejection is now moot.

Claim Rejections Under 35 U.S.C. §102

Claims 13-25 stand rejected under 35 U.S.C. §102 as anticipated by U.S. Patent No. 6,322,166 (Furuya et al.). As set forth in the interview, applicants traverse these rejections.

Independent claim 13 recites a "[m]ethod for reducing deviations between the effective current and the measured current in a pulse-width-modulated current control, in particular for electronic brake control units of motor vehicles, wherein the measured current is determined at a certain predetermined time during an actuation period and a compensation is executed by way of compensation variables in response to temperature and supply voltage, which are added to the measured current so that a corrected nominal current is available for current control."

During the interview, the examiner explained that the regenerative value discussed in Furuya et al. corresponded to the claimed measured value. The examiner then cited to Furuya et al. at column 19, lines 6-25, as teaching correction of an output characteristic based on a characteristic map and column 18, lines 1-42, as teaching compensation of the regenerative value based on temperature and supply voltage. As explained during the interview, Furuya et al. does not teach or suggest determining a measured current at a predetermined time during an actuation period and compensating that measured current, as recited in claim 13.

Referring to Figs. 5(a) - 5(c) of Furuya et al., the regenerative current I_2 does not equal the coil current I_1 , and does not correspond to the claimed measured current. Furuya et al. explains at column 12, 23-32, "[t]he regenerative current I_2 has different waveforms in accordance with an inductance characteristic varying with a clearance of said air gap G. Specifically, as shown in FIG. 6(b), an inductance L varies with the magnitude of the dimension of the air gap G. And as shown in FIG. 6(a), a value of the regenerative current I_2 varies with a variation in the dimension (ΔI in the drawing). Therefore, the dimension of the air gap G, i.e. the position of the plunger 303 can be detected out of a value of the regenerative current I_2 in the regenerative-current detection circuit." Furuya et al. simply teaches the use of the regenerative current for determining the position of the plunger 303, and does not teach or suggest determining a measured current at a predetermined time during an actuation period and compensating that measured current.

Furthermore, with respect to compensation, Furuya et al. explains at column 14, lines 11-20 that "[n]ext, at a step 93, based on a characteristic map of regenerative current as previously input, a gradient value X upon full opening and a gradient value Y upon full closing are obtained at the stored duty ratio. Specifically, the gradient value X upon full opening and the gradient value Y upon full closing for the regenerative current as shown in FIG. 10 are input as a characteristic map of regenerative current for every duty ratio, which are obtained at the step 93. Next, at a step 94, the position of the plunger is calculated by $\{(Z-Y)/(X-Y)\} * 100$. Specifically, the position is obtained based on what is the ratio of the actual gradient value Z to the two gradient values X, Y." The compensation utilized in Furuya et al. is compensation of the position of the plunger, and not is a compensation of the measured current. The cited reference fails to teach or suggest each limitation of the claimed invention.

It is respectfully submitted that independent claim 13 is condition for allowance. Claims 14-25 each depend from claim 13 and should each be allowed for at least the reasons set forth above.

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It is respectfully submitted that each of the pending claims is in condition for allowance. Early reconsideration and allowance of each of the pending claims are respectfully requested.

If the Examiner believes an interview, either personal or telephonic, will advance the prosecution of this matter, it is respectfully requested that the Examiner get in contact with the undersigned to arrange the same.

Respectfully submitted,



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